



Office  
of  
Coastal Resource Management  
SCDHEC  
*Survey of Coastal Residents'  
Perceptions of  
Docks*

September, 2001

*Joseph P. Riley, Jr.*  
*Institute*  
*for*  
*Urban Affairs and Policy Studies*



*Prepared by:*  
*Dr. Arthur A. Felts, Director*

*with the assistance of:*

*Mindy Freedman*  
*Marijana Radic*  
*Karl Walsh*

## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>3</b>
<b>METHODOLOGY .....</b>	<b>5</b>
<b>SURVEY FINDINGS .....</b>	<b>8</b>
PROFILE OF RESPONDENTS.....	8
<i>Summary</i> .....	12
ANALYSIS: RESIDENCE, DOCK LOCATION, AND EFFECT ON PROPERTY VALUES.....	12
ANALYSIS: OPINIONS REGARDING DOCKS AND THE REGULATION OF DOCKS .....	21
<b>OWNERS' PERCEPTIONS OF THE STRUCTURE AND VALUE OF THEIR DOCKS.....</b>	<b>38</b>
<b>SUMMARY AND CONCLUSIONS .....</b>	<b>41</b>



## Executive Summary

This is a report of a household telephone survey conducted in the summer of 2001 of residents of eight South Carolina coastal counties concerning opinions about private docks. A total of 384 households were contacted, giving the survey data an error margin of  $\pm 5$  percent at the .05 level of confidence. The surveyed population compares favorably with the populations in the counties on most demographic variables. Comparative data analysis indicates the survey over-represents those with college and master's degrees.

### Major findings:

- Three out of four respondents believe that those who own property on the water should be able to build a dock.
  - Nearly nine out of ten think docks add to the value of property.
    - There was no statistically significant difference between those who lived on waterfront property and those who did not in responding to this question.
  - Nine out of ten said they would want a dock if they lived on the water.
  - There is some evidence of inter-county variation on residents' opinions as to whether individuals should be allowed to build a dock suggesting that local governments might better reflect local preferences.
- The population is about evenly divided over whether or not docks should be regulated by government.
  - There is overwhelming support among residents that local governments be the entities to establish regulations for docks.
  - More educated households appear to be more tolerant of government regulation.
  - Among those who support government regulation of docks, there is a strong tendency to believe that docks are harmful to the aquatic environment—suggesting that regulation is perceived as necessary to protect the environment.
- Residents are also evenly divided over whether or not the length of docks should be restricted.
  - Approximately 6 out 10 do not think dock roofs or coverings should be restricted.
- Residents are also evenly divided over whether or not a fee should be charged to build a dock.
  - A large majority of those who do think a fee is appropriate think it should be a one-time fee.

- Less than 20 percent think that docks are harmful to the aquatic environment. Those that do think so are much more supportive of restricting docks in various ways.
  - Those who live on the water are no more likely to say docks harm the aquatic environment than those who do not.
  - Residents are evenly divided over whether or not using docks for boating is harmful to the environment.
- Approximately one out of four thought that docks detract from marsh, creek, and river views.
- A large majority (70 percent) does not think there are too many docks.
  - About 6 out of 10 think that there are places where docks should not be built—with the most frequently mentioned site areas that are deemed environmentally sensitive.
- About twelve percent of those surveyed believe that docks are both harmful and aesthetically displeasing. Of these, more than half (55 percent) live in Charleston County—yet that county only accounts for one-third of the coastal residents.

## **Introduction**

In April of 2001, the Joseph P. Riley, Jr., Institute for Urban Affairs and Policy Studies was contracted by the South Carolina Department of Health and Environmental Control (SCDHEC) Office of Ocean and Coastal Resource Management (OCRM) to conduct a telephone survey of South Carolina households in the following counties.

- Beaufort
- Berkeley
- Charleston
- Colleton
- Dorchester
- Georgetown
- Horry
- Jasper

The purpose of the survey was to gather data on opinions about docks in the coastal area.

The issue addressed in the survey was articulated in the proposal.

As the coastal areas of South Carolina have grown in population, there has been a dramatic escalation in dock permitting and construction. With increasing public awareness of environmental issues, docks have become more controversial. While existing scientific data suggests minimal environmental impacts of docks, it is reasonable to speculate that the general public views them in a less benign light. Moreover, some view docks as detracting from marsh and water vistas. Others also raise the issue of interference with navigation, especially from long docks, and the impacts of increased boating (presumably as a result of the increasing numbers of docks) on coastal water bodies and wild life.

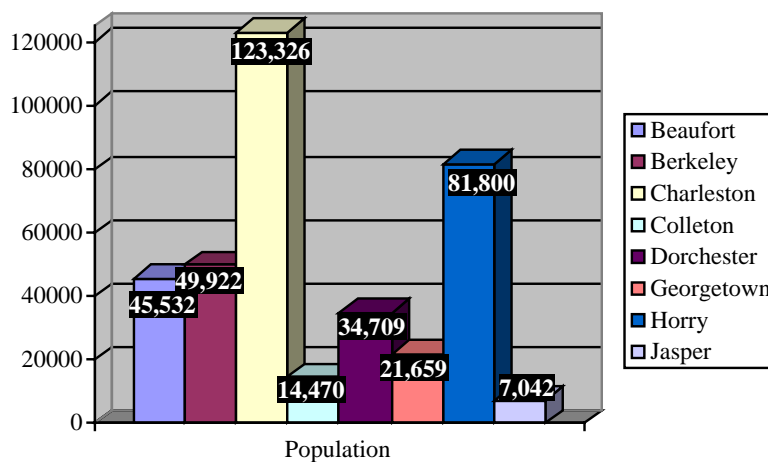
On the other side are landowners who see docks as a fundamental property right and believe the government has no right to impose restrictions. They argue that docks substantially increase the value of waterfront property and provide access to a public resource and believe, in light of little data to suggest they do any significant harm to the resource, they should be allowed.

Some groups are quite vocal in their opinions on docks, but the views of a majority of coastal residents are unknown. It is also unknown if they hold strong views one way or another on this issue. It is reasonable to speculate that they may be influenced by the degree to which they engage in water-based recreational activities.

Given the controversial nature of docks and the fact that staff at the OCRM saw themselves as spending a great deal of time on docks and dock permitting, data from the survey could be used to help create public policies regarding docks that were more reflective of public sentiment.

Initial discussions with OCRM staff focused on the information they wanted to obtain from the survey. A survey was constructed, reviewed and approved for use. Anticipating that we might contact some households who actually had docks, we designed a separate survey for dock owners. Dock owners answered the same questions as those who did not own docks, but also answered additional questions about their docks—e.g., how they were used, how much value they thought was added to their homes, etc.

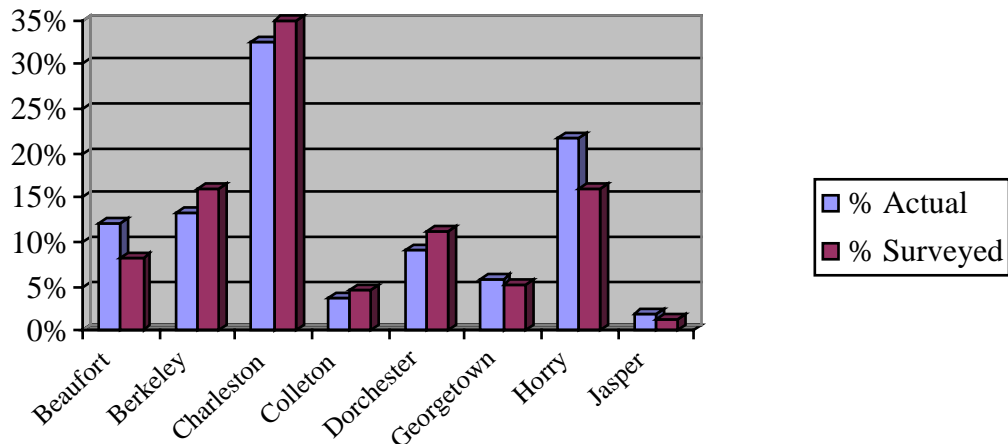
Institute staff obtained a list of random telephone numbers, prescreened for businesses, and disconnects for the eight counties from Survey Sampling, Inc. These were not stratified beyond that—thus they would be expected to reflect the distribution of households in the eight counties on a roughly proportional basis. In fact, the chart here shows the numbers of households for the counties—based on US Census data from the year 2000.



The chart shows that of the 378,460 households in the eight counties, more than half are located in Charleston and Horry Counties. On the other hand, an extremely small percentage of households are located in the smaller counties of Colleton and Jasper.

In fact, Jasper County's 7,042 households represent less than 2 percent of all the households in the combined eight counties.

The completed survey database reflects favorably upon this distribution of households throughout the eight counties. The chart here shows the actual percentage of households in each county compared to the percentage in the survey database.



The chart shows a high degree of correspondence between the actual distribution of households (expressed as a percent of total households) and those surveyed. A slightly higher percentage of households in Charleston County were surveyed—37.2 percent surveyed versus 32.6 percent actual. Correspondingly, a slightly lower percentage of households were surveyed than that of the actual total households in Horry County—15.9 percent surveyed versus 21.6 percent actual. These are well within acceptable parameters—especially when we note that such relative distributions may be affected by a range of other factors such as number of vacation homes, etc.

## Methodology

Households in the eight counties were called by College of Charleston undergraduate students during the month of June. Calls were mostly placed during the evening hours, Monday through Thursday between 5.30 PM and 8.30 PM. Calls were also made on Saturday mornings between the hours of 9 AM and 12 PM—but only to numbers that failed to get an answer during the week.

We attempted to contact every number at least three times before dropping from the list, using the following procedure. If we failed to get an answer for a number on the list or

we encountered an answering machine, the date and time was recorded. The next evening, another attempt was made at a later or earlier time than the failed attempt. For example, if we got no answer at 6 PM one evening, we attempted the call again at 8 or 8:30 PM the next evening. If this contact produced the same result, then we attempted a contact on Saturday morning and usually tried the number during the day.

In some cases, a contact was made but the person contacted asked the surveyor to call back at another time. The surveyor recorded the desired callback time and we attempted contact again. In some instances, as expected, the surveyor was told to call back again. We attempted call-backs three times. If we were not successful after three tries, the number was dropped from the list.

Past experience with surveys told us that some households could be successfully contacted during the daytime. We used one surveyor to make calls variably during the daytime hours between 10 AM and 4 PM—most of the time the calls were attempted in the afternoon. The daytime surveyor attempted to contact numbers that had no answer or an answering machine in the evening. The yield rate for daytime contacts was such that it was cost-prohibitive to use more than one surveyor. On average, the daytime surveyor made one contact and completed one survey per hour. The evening rate of contact was approximately three times more efficient.

Calling was done on a purely random geographic basis. Surveyors did not know which county they were calling. Contacts were guaranteed their individual response would be kept anonymous.

A total of 384 households were successfully contacted. Assuming those households we surveyed were truly random, this would give an error margin of  $\pm 5$  percent at the .05 confidence level. This is important to understand since it is our desire to generalize the findings here to the entire population in the coastal counties. To understand this error margin, assume that 50 percent of those households surveyed answered “yes” on a question and 50 percent answered “no.” The error margin then tells us that if we surveyed all the households in the eight counties and asked them that same question, the percentage of those answering “yes” would be between 45 and 55 percent ( $\pm 5$  percent of 50 percent),

95 times out of 100 (.05 level of confidence). The .05 level is standardly used in social science research. Other groups, e.g., marketing research firms, standardly use less stringent levels such as .1. If this less stringent level is used, then the error margin shrinks as well. It should be noted that we have the least confidence in answers where there is even dispersion—such as a 50-50 split. As answers to a question move toward one category over another, the error margin actually shrinks. Thus, the 5 percent margin of error is the largest one for this data set.

In survey research, telephone surveys are vastly preferred over the alternative of mail surveys. This is because mail surveys typically have low response rates (20 percent is considered exceptionally high) that typically bias the results. Respondents to mail surveys are not a random sample—they typically are more conservative in their political views. It is thus difficult to generalize the findings of mail surveys to a larger population.

Telephone surveys have some built-in limitations as well. They do not include households who do not have telephones. In 1990, 6.5 percent of households in Charleston County did not have a telephone. These would typically be poorer, more likely to be African-American and rural. A much higher percentage of those who do not own telephones are renters. But telephone surveys under-represent renters in other ways as well—because they are more transient, many renters may not yet be included in telephone listings and thus unavailable for calling.

In the survey, we asked demographic questions (e.g. years lived in South Carolina; years of education), questions about property use (e.g. location of a dock on their property), questions about opinions concerning the use of docks (e.g. limits on the overall size of docks) and questions about regulation of docks (e.g. should society regulate when and where private docks can be built). Dock owners answered a separate set of questions concerning the characteristics and use of their docks (e.g. length of the dock; effect of the dock on property value).

## Survey Findings

This report presents the findings of the survey in the following general categories: a) a general profile of the respondents; b) nature of the respondent's place of residence and location of docks, including the effect of docks on property values; c) public opinions regarding docks and the regulation of docks; d) data from a limited number of dock owners, and, e) analysis and conclusions.

### Profile of Respondents

We asked household respondents to report on the highest degree in their household. The

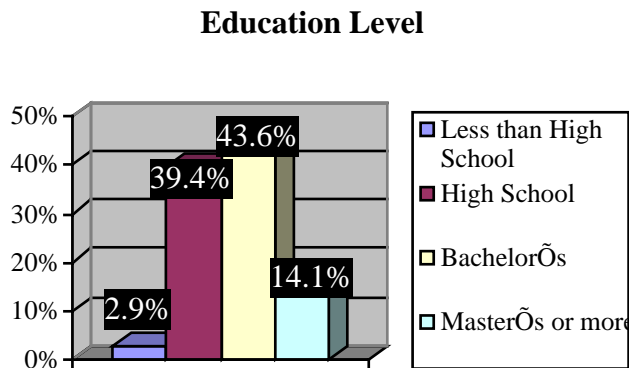


chart here shows the responses.

As can be seen, just over 40 percent of those responding indicated they had a bachelor's level education with an additional 10 percent reporting post-graduate work. There can be little doubt that the survey over-represents those two categories relative to the actual population of the eight

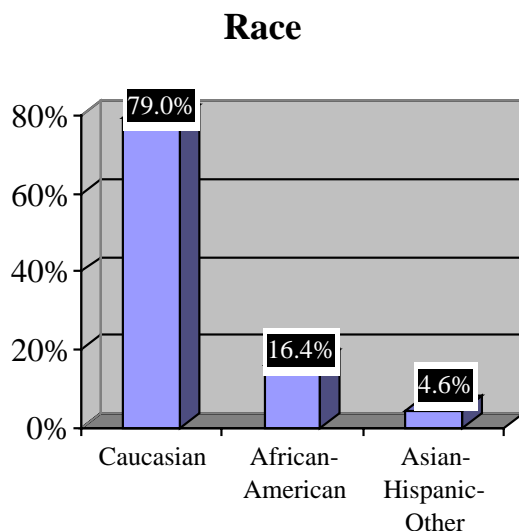
counties. However, it is unclear by how much because US Census data reports educational data for individuals (not the highest education in a household) and does so only for those 25 years and older. Thus, "bachelor's" degree would not be reported for someone who is 22 years old—even if they held a bachelor's degree. The reasons for this are clear enough—the under 25 year-old population is fairly dynamic with respect to education.

Available US Census data on education for the eight counties is from 1990 and has undoubtedly changed. However, the 1990 Census data reports that 39 percent of the population 25 years and older had a high school education. This compares very favorably with the survey data in the chart above. However, the 1990 data also reports that just at 10 percent of the population 25 years and older of the eight counties had a bachelor's degree.

That figure has no doubt risen between 1990 and 2001, but we still should speculate that the surveyed population over-represents the more educated.

In the survey, we asked respondents to tell us the highest educational level of the household. This does not allow us a direct comparison with US Census data since the question was not addressed to individuals and since we did not discriminate among those older than 25 years. To illustrate, we could have surveyed a younger household occupied by a couple less than 25 years old where both had a bachelor's degree—these would not be reported individually in the US Census data. Or, we may have surveyed a household where one member had a high school education and one member had a bachelor's degree. This would be reported in the survey as “bachelor's” since we asked for the highest educational achievement.

Be that as it may, we should be especially on guard in analyzing the data on issues where education makes a difference. The report below does precisely that, analyzing whether or not educational achievement makes a difference in how households respond to questions. The reader should be aware of this throughout and make adjustments to the data on that basis. For example, suppose those who are more educated support government regulations of docks—and the survey data supports this in a statistically significant way. We should then consider that the survey data will overstate the support for government regulation of docks because we believe we have over represented those who are more educated in the survey.



US Census data from 2000 indicates that the combined population of the eight counties was 981,338. Of these, 93,100, or a little less than 10 percent, of those aged 25 years and older had a college degree. But this US Census data are for individuals and not households. Thus, a household could have one college gradu-

ate and one high school graduate and the survey data would reflect the college graduate. For this reason and because US Census data only reports education for those aged 25 years and older, we cannot guess how much the college-educated group is over-represented. The chart also shows that approximately 40 percent of those surveyed said they had a high school education. This reflects very favorably with US Census data. Census data from 1990 indicated that there were 379,000 residents 25 years or older, or 39 percent of the population, that had a high school education. The sample matches this quite closely.

We asked respondents to tell us the race of their household. Their responses to the question are in this chart.

In fact, US Census data for the year 2000 indicates that the eight counties have approximately 32 percent African-American. But it also should be immediately noted that the percentage of African-American households is lower than this—African Americans typically live in larger households than Caucasians. To illustrate, the total African-American population in Berkeley/Dorchester/Charleston Counties is approximately 31 percent. However, the total number of African-American households in these three counties is actually under 25 percent.

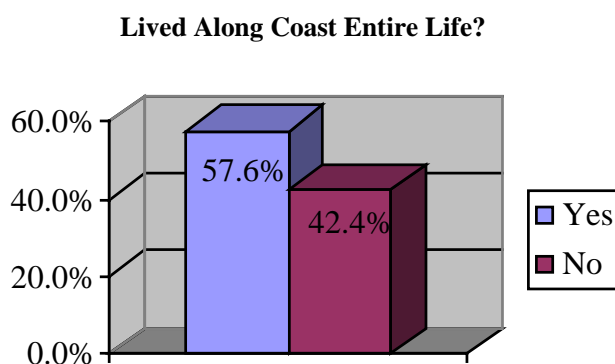
We asked the respondents how long they had been living in South Carolina. Many of them appear to be long-term residents. The average number of years lived in the state was

25, with a median of 21 years. We

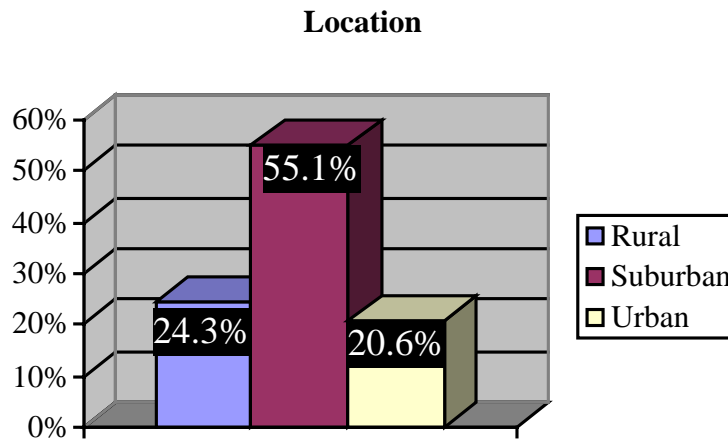
also asked them whether they had lived along the coast all their lives. The responses indicate a majority of those questioned have lived along the coast all of their lives as this chart shows.

We asked those who indicated they had not lived on the coast all

their lives where they came from before they moved here. They reported a variety of



places. The largest group, about one quarter, indicated they lived someplace in the Carolinas (12 percent in North Carolina and 12 percent in other locations in South Carolina) before moving to the coast. The next largest groups were from Georgia (7 percent) and



Florida (5 percent). The remaining respondents originally lived in locations scattered across the U. S. (states such as Indiana, Kansas, Kentucky, Massachusetts, Texas, and Colorado) and the world (Germany, Japan, and Korea, for example). The

data are indicative of a coastal population increasingly diverse in origin.

We asked the respondents whether they considered the area they lived in to be rural, suburban or urban. Their responses are in this chart.

The largest number of those interviewed (55 percent) reported living in a suburban environment.

The high percentage of suburbanites indicates the continued growth in this segment of the population nationally and the continued development of urban areas from Myrtle Beach to Beaufort County.

Contingency analysis of this variable showed that Charleston County had the lowest percentage of respondents who indicated they lived in a rural environment (12.8 percent) and Jasper and Colleton Counties had the highest rural group (80 percent and 61.1 percent, respectively). Nearly half—47.4 percent—of the respondents living in Georgetown said they lived in a rural environment. The table below shows the full breakout of place of residence by county.

County by environment				
	<i>% Rural</i>	<i>% Suburban</i>	<i>% Urban</i>	<i>Total N</i>
<b>Beaufort</b>	29.0	58.1	12.9	31
<b>Berkeley</b>	31.1	53.3	16.4	61
<b>Charleston</b>	12.8	60.3	27.0	141
<b>Colleton</b>	61.1	22.2	16.7	18
<b>Dorchester</b>	18.6	74.4	7.0	43
<b>Georgetown</b>	47.4	31.6	21.1	19
<b>Horry</b>	23.3	53.3	23.3	60
<b>Jasper</b>	80.0	0.0	20.0	5

Race breakouts by county are in the table below.

County by Race				
	<i>% African-American</i>	<i>% Caucasian</i>	<i>%Other</i>	<i>Total N</i>
<b>Beaufort</b>	16.1	74.2	9.7	31
<b>Berkeley</b>	15.3	79.7	5.1	59
<b>Charleston</b>	19.7	75.4	4.9	142
<b>Colleton</b>	23.5	76.5	0.0	17
<b>Dorchester</b>	19.0	78.6	2.4	42
<b>Georgetown</b>	0.0	95.0	5.0	20
<b>Horry</b>	11.7	85.0	3.3	60
<b>Jasper</b>	20.0	80.0	0.0	5

## Summary

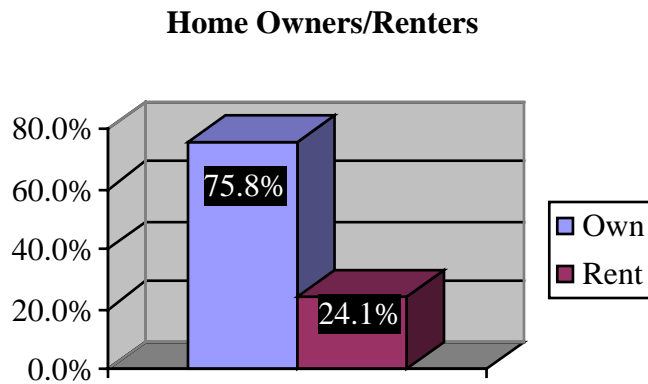
A typical respondent to the survey.

- Is a high school or college graduate.
- Is Caucasian in race.
- Has probably lived his or her entire life on the coast.
- Lives in a suburban area of coastal South Carolina.

## Analysis: Residence, Dock Location, and Effect on Property Values

US Census data from 2000 indicates that there are approximately 470,000 housing units in the eight county area defined for this study. Of those 332,000, or about 71 percent, are owner occupied rather than rented. Home ownership rates calculated by the Census Bu-

reau do vary across the eight counties from a low of 61 percent in Charleston County to a high of 81.5 percent in Georgetown County. We asked respondents whether they owned



or rented their homes. The results are in this chart. The survey data compare very favorably with Census numbers. In fact, we expected that a slightly higher percentage of home owners would be contacted by virtue of the logistics of renters—renters are more mobile, poorer, and less

likely to have a telephone.

As we expected, we systematically sampled higher percentages of homeowners versus renters in all the counties in the survey. When analyzed, we found no statistically significant relationship with race and the answer to this question. African-Americans did report a lower percentage as owning their own homes (and a higher percentage of renters), but it was not enough to be significant.

We can speculate that the presence of a high proportion of property owners indicates a subset of the respondents who are highly concerned about the study's questions regarding the location of docks and the relationship of docks to property values and environmental risks. Typically, we would expect for those who own their homes to have a greater “stake” in what limits are placed on the use of their property—particularly when they see

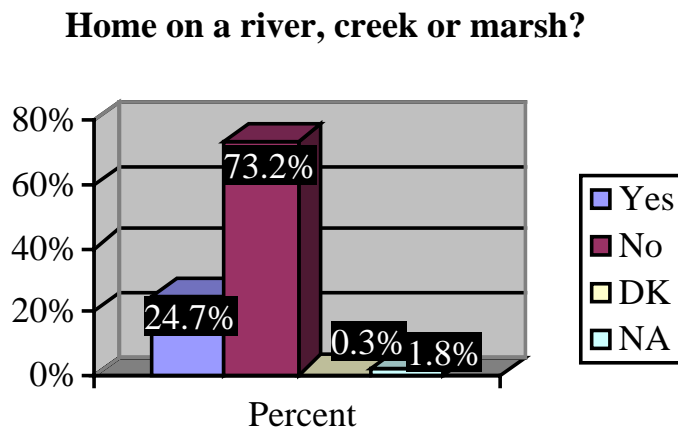
the value of property. And this will almost always be the case, either positively or negatively.

<i>Does your neighborhood have covenant restrictions?</i>		
	<i>Count</i>	<i>Percent</i>
<b>Yes</b>	212	55.2
<b>No</b>	150	39.1
<b>DK</b>	18	4.7
<b>NA</b>	4	1.0
<b>Total</b>	384	100.0

We asked the respondents whether or not they lived in an area that had covenant restrictions on property use. The responses to the question are in this table. We have no way of knowing whether this reflects the population at large, but it is reasonable to speculate

that some may have interpreted zoning restrictions to be the same as covenant restrictions.

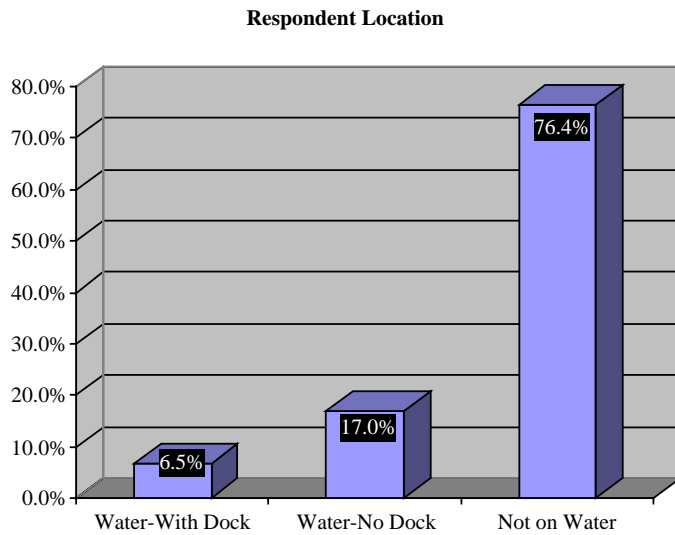
Possibly reflecting both real knowledge and ignorance among renters, when we distinguished property owners from renters, 60 percent of the owners report that there are restrictions on their property compared to 43 percent of the renters. Confirming our suspicion that restrictions correlate positively with income, which in turn correlates with education, we found a consistent but statistically insignificant relationship between answers to this question and reported educational attainment.



We asked respondents to tell us if their house was located adjacent to a marsh, creek or river. The responses are in this chart. As it shows, approximately one-quarter—95 out of 384 responding to this question—of the respondents indicated they lived adjacent to some type of aquatic environment.

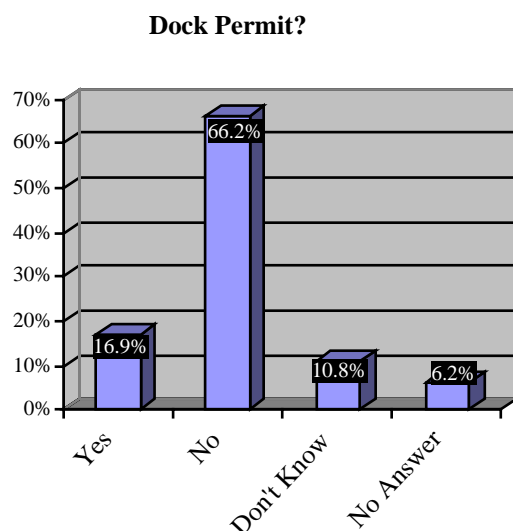
Interestingly, to look ahead at a question just a bit, there was no correlation between whether a respondent stated he or she lived on a river, creek, or marsh and their views on docks. For example, those who lived adjacent to rivers, creeks or marshes were no more likely to say they thought docks were harmful to the environment than those who did not.

As a follow-up to this question, we asked those who did live along a river, marsh, or creek to indicate how much frontage they had. About half the respondents gave an answer of “don’t know” or were otherwise unsure and reluctant to guess. The average among the other half was 148 feet, with a median and modal response of 100 feet. The high number given was 1,100 and the low of “0” indicating perhaps that the land was publicly or commonly held.



out—those on the water with docks, those on the water with no docks and those not on the water—by percentage.

Above, we reported that there were close to 470,000 housing units in the eight counties we surveyed. Can we then say that—inductively—this would lead us to guess that there are in excess of 30,000 docks? That would be 6.5 percent of the total 470,000 housing units. There are some reasons to think the answer would be negative. We did not ask respondents whether or not their dock was shared. There is reason for believing that might be the case for a significant number of those who indicate they did have a dock. For example, of the 25 who said they had a dock, 4 (16 percent) were renters. In the case where



For those who indicated they owned land along a river, creek or marsh, we asked whether or not they had a dock. A total of 90 of the 95 owners who had waterfront property responded. Of those, 25, or 6.5 percent of the total surveyed population, said they did have a dock. The table here shows the total break-out—those on the water with docks, those on the water with no docks and those not on the water—by percentage.

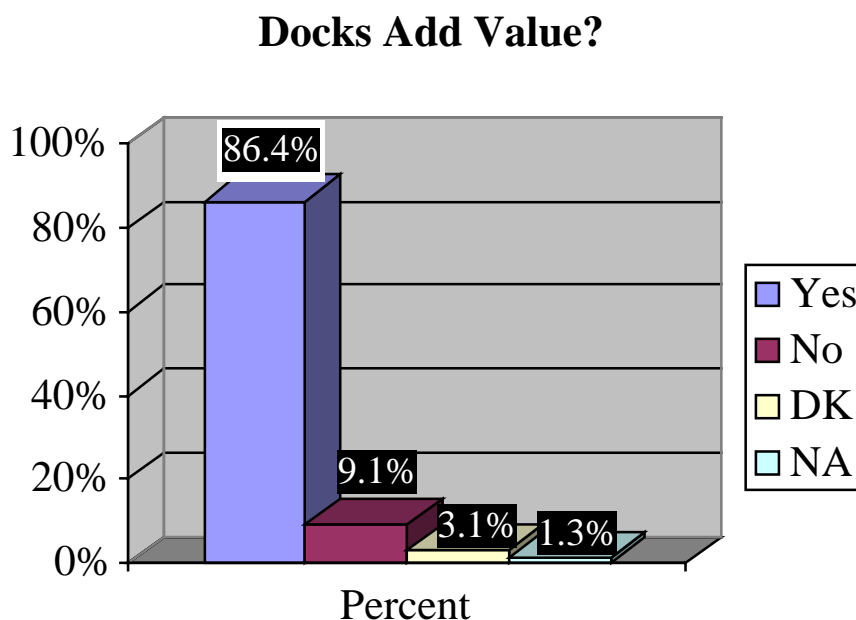
renters are part of an apartment complex, we would speculate that they would have a common dock, though we would not guess that if they rented a single family home. We would also speculate that at least some percentage of single family owners and renters might also have a dock that is shared with a neighbor. Thus, we should be careful in assuming that this allows

such a generalization. Realistically, we would adjust the figure of 30,000 docks downward—but by how much is a matter of speculation.

A final follow-up to this question was to ask if the respondent had a dock permit in those cases where they lived on the water. The chart shows the responses to this question. Of the 65 respondents who lived on water and did not already have a dock, 11 or 16.9 percent indicated they did have a dock permit in hand. Two-thirds indicated they did not and about 16 percent either didn't know or did not answer. This figure of 11 represents about 2.9 percent of all respondents in the survey.

We asked everyone in the survey—regardless of whether they lived on the water or not or had a dock or not—whether they thought docks add value to a property. Their answers to

the question are displayed in this chart.



The chart shows that those surveyed overwhelmingly thought that docks added to the value of property. From this, we would naturally

speculate that those who purchased a house on the water would expect to pay more if a house had an existing dock. We could also reasonably speculate that the existence of a dock permit would enhance the value of a property. It would also follow that those who had homes or property on the water and built a dock would expect to be able to increase the value of their property by some proportion.

Further analysis of responses to this question yielded interesting insights.

First, those who live on water were slightly more likely to say docks enhanced the value of waterfront property over those who did not (90.5. percent versus 85.4 percent). This, however, is not a statistically significant difference leading us to conclude that the perception is fairly consistent across the population.

We did not ask all respondents how much they thought a dock would add to the value of a home—speculating in advance that it would depend upon a number of other locational variables. We did ask those who actually owned a dock how much they thought their dock added to the value of their property. The majority of the dock owners stated they did not know. Among the ten who did respond to the question, the average increase in value was speculated to be \$106,500 with a high of \$500,000 and a low of \$20,000 with a midpoint of \$42,500.

Though we cannot draw any statistical conclusions from such a small group of respondents, analysis of variance supports the suspicion that location of the dock matters greatly. The five property owners who gave estimates and lived on creeks said they thought their docks increased the value of their property by an average of \$45,000. The four who lived on inland waterways who gave estimates averaged \$85,000 in their guess of increased property value and the one dock owner who answered the question who lived on a river estimated a dock increased his/her property value by \$500,000.

Following with this locational analysis which could be important if a survey of only dock owners was done, we can note that the 3 dock owners who indicated they lived in rural areas estimated an average increase in property value of \$185,000 versus the 7 who indicated a suburban location who estimated an average increase of \$72,900. However, since we also know that the dock owner who estimated his/her dock increased their property value by \$500,000 lived in a rural area, we can only point out what this limited dataset indicates. In fact, when that specific dock owner is eliminated, the other 2 who lived in rural areas indicated their docks increased their property value by only \$27,500. From this, we could speculate that rural property owners might see a greater variation in property value increases associated with docks.

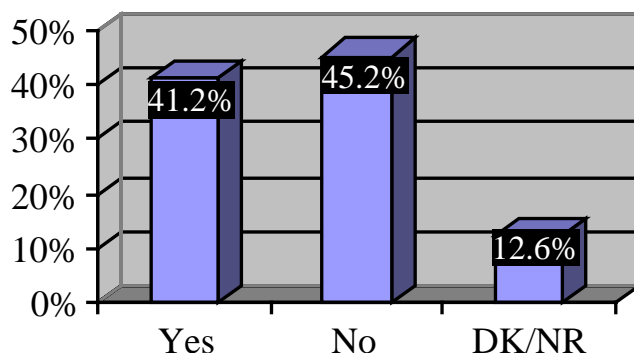
Finally, we would speculate that water depth might affect property value. Among the ten owners who did supply estimates of increased value, the two who indicated their dock had 1-4 feet of water at low tide estimated a value increase of \$27,500. The 7 who said they had in excess of 4 feet of water at low tide estimated an average value increase of \$140,000. However, 1 owner whose dock was dry at low tide estimated it increased his/her property value by \$30,000.

Clearly, the property value increases associated with docks are subject to a number of locational variables. To point this out, the 5 who lived in Charleston County thought their property values were increased by an average of \$82,000 while the two who lived in Beaufort County thought their property values increased by an average of \$50,000. One Berkeley County resident thought \$20,000 and one Georgetown County resident thought \$35,000.

A different view on the idea of locational analysis of docks can be obtained if we speculate on whether or not the value of a piece of property is enhanced by virtue of being proximal (or even proximate) to a dock. We asked respondents who did not have a dock a question that would, in effect, require them to speculate about the impacts of a dock on the value of their property. This was presented in the form of the following question.

“If your neighbor had a dock and you didn’t, would your neighbor’s dock increase the value of your property?”

**Neighbor's Dock Add Value?**

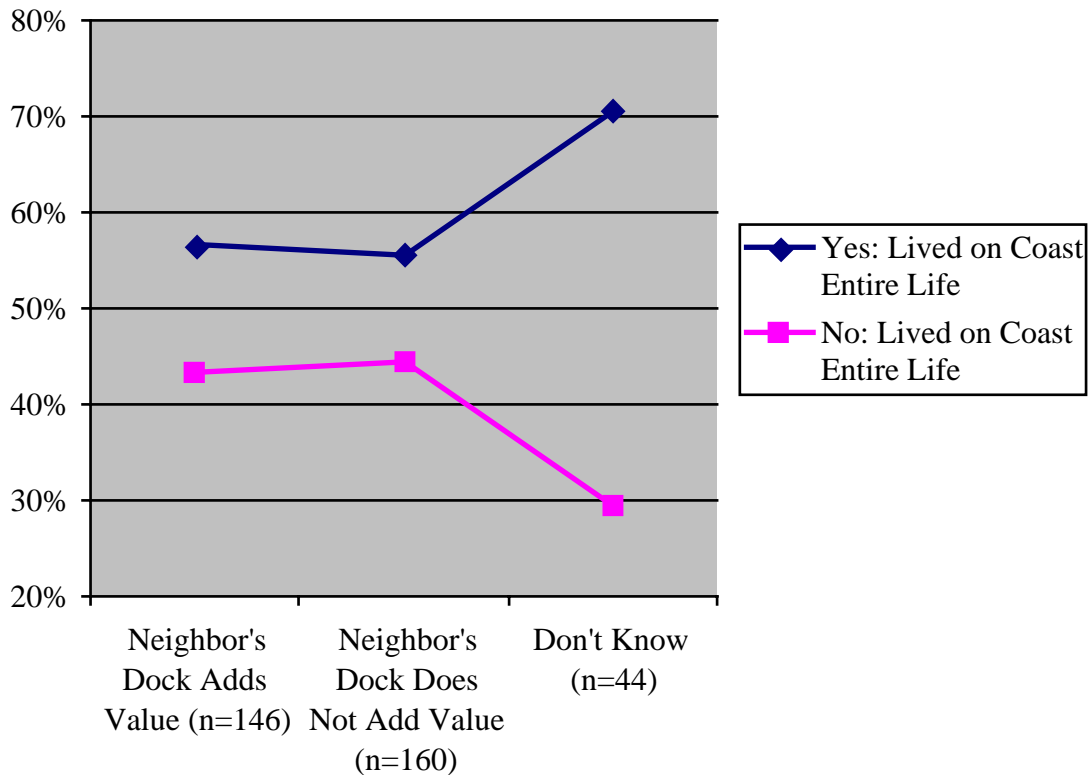


The responses (N = 354) to this question are interesting—as the chart indicates. Given the error margin, we can only say that the respondents are divided on this issue, with no clear consensus as to whether or not a dock on

an adjoining property adds to value of their property.

Further analysis of the responses to this question yielded little insight. There was no statistically significant correlation between the county of the respondent and their answer to this question. Nor was there for the area lived in—rural, suburban, or urban.

Interestingly, there was a statistically significant relationship between whether respondents indicated they had lived along the coast their entire lives. The chart here shows this.

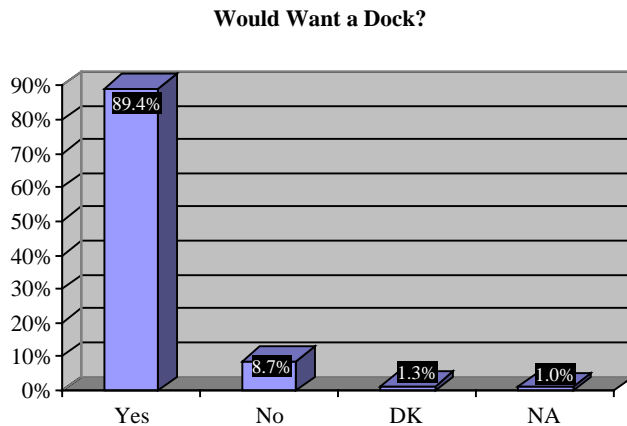


(Chi-Square = 8.667, P-Value = .0339)

The chart suggests no real difference between those who answered they think their neighbor's dock adds value and those who did not think so. But the smaller percentage (13 percent of those responding) of those who answered "don't know" are far more likely to be life-long residents. This perhaps points to a cultural phenomenon in which long-time "neighbors" don't speak of such things.

Finally, when we analyzed the same contingency table as above, but controlled for place of residence, a clearer picture emerged. That is, those who lived their entire life in coastal

rural areas were either more inclined to say that a neighbor's dock would not increase the value of their property or they did not know if it would or not. This suggests that those in rural areas perhaps either take a more casual view of docks or even take them for granted.



We asked respondents if they would want a dock if they lived on the water. This question was not asked of those who had a dock since we took that as prima facie evidence of a “yes” answer. We add the 25 dock owners into the “yes” category—and the answers are reported in this chart.

As the chart shows, an overwhelming percentage, nearly 9 out of 10 respondents, indicated they would want to have a dock if they lived on the water.

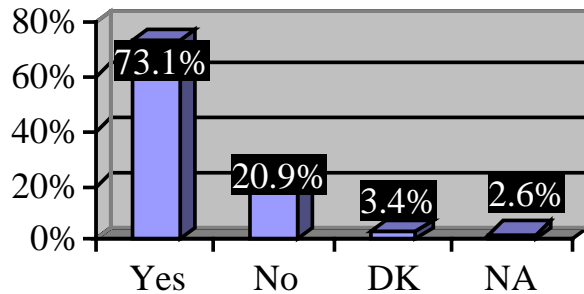
**Summary.** Concerning their place of residence, location of docks, and effect of docks on property values, those who answered the survey tended to say they:

- Own their own homes;
- Live in a suburban or urban area,
- Live in a neighborhood with covenant restrictions;
- Do not have a home located on a marsh, creek, or river;
  - However, overwhelmingly would want a dock if they did live on the water,
- Think that docks add to the value of property;
- Are divided on whether a neighbor's dock would add to their property's value if they did not have a dock.

## Analysis: Opinions Regarding Docks and the Regulation of Docks

OCRM staff were very interested in the public's views on dock permitting. Institute staff

Should Property Owners Be Able to Build Dock?

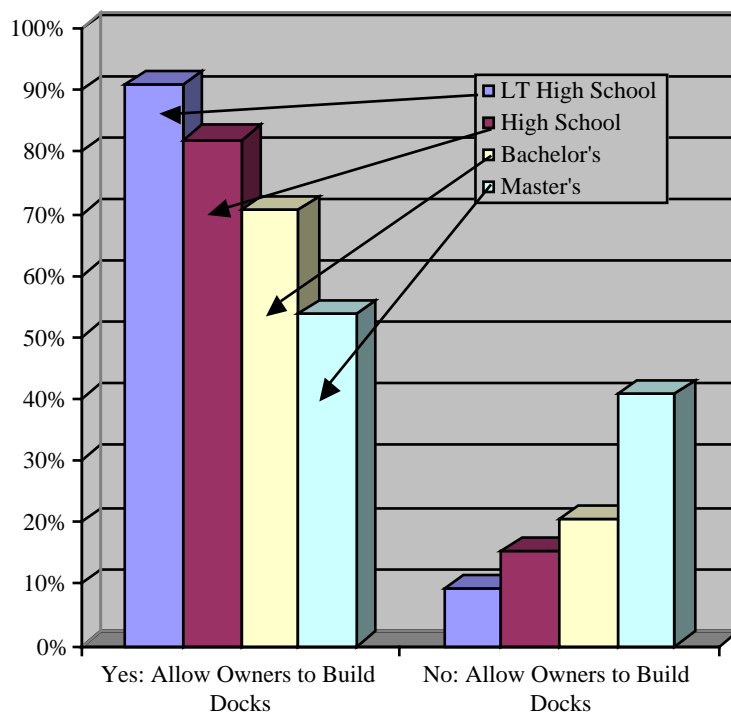


suggested that the question be directly asked-- Do you think anyone who owns property on the water should be able to build a dock? The responses to this question indicate a substantial percentage of coastal residents believe that they should, as the chart

shows.

Just less than three out of four respondents indicated they thought property owners should have the privilege of building a dock—with one in five saying they did not think the right should be accorded.

We should be careful in generalizing the responses to this question to the general coastal population because there is a significant association with responses to this question and educational level. The chart below shows this association very clearly.



(Chi-Square = 25.619, P-Value = .0024)

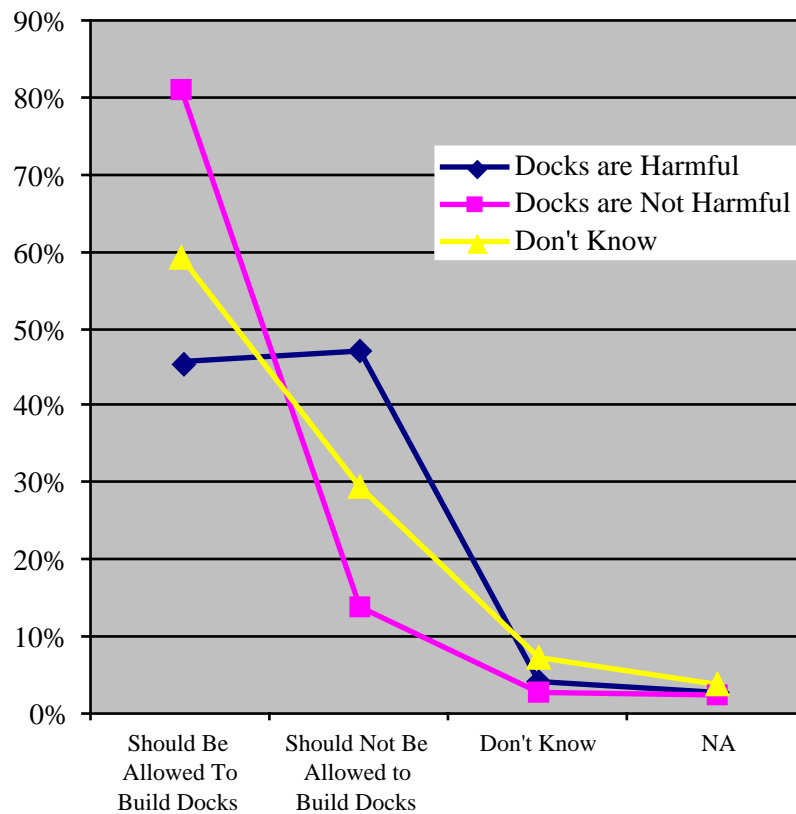
The table gives support to an hypothesis that the more educated the respondents the more likely they will be to support the idea of restricting the use of property. As can be seen, there is an orderly progression downward and upward when we control for the educational level of the household. Since we know that we quite likely over-sampled more educated households, we would speculate that the actual percentage of coastal residents who think waterfront property owners should be allowed to build docks is higher than the 73 percent reported above.

We found no strong correlation between years in residence on the coast and answers to the question of whether or not waterfront property owners should be allowed to build docks. Nor was there a correlation between whether or not the respondent indicated they had lived their entire life along the coast and responses to this question. We did, however, find a relationship between county of residence and attitudes on dock-building, as the table shows.

	<i>Should property owners be allowed to build docks?</i>			
	<i>Yes</i>	<i>No</i>	<i>DK</i>	<i>NA</i>
<b>Beaufort County</b>	54.8%	45.2%	0.0%	0.0%
<b>Berkeley County</b>	88.5%	9.8%	0.0%	1.6%
<b>Charleston County</b>	65.7%	27.3%	3.5%	3.5%
<b>Colleton County</b>	88.9%	5.6%	0.0%	5.6%
<b>Dorchester County</b>	72.1%	14.0%	7.0%	7.0%
<b>Georgetown County</b>	70.0%	15.0%	15.0%	0.0%
<b>Horry County</b>	80.3%	16.4%	3.3%	0.0%
<b>Jasper County</b>	80.0%	20.0%	0.0%	0.0%
(Chi-Square = 45.899, P-Value = .0046)				

The table suggests the possibility of county-by-county variations in attitudes toward whether or not a property owner should be able to build a dock. It should be remembered that, in some cases, the individual number of households surveyed are low, and thus this table should be viewed as tentative, but nonetheless, supporting an argument that there are variations across SC counties on this issue. We did not find any similar correlations on the location of the respondent—whether rural, suburban, or urban—nor on whether or not they lived on the water.

With respect to the survey participants' views on whether or not a property owner has the privilege of building a dock, we found a very strong correlation between responses to this question and whether or not the respondent thought docks were harmful to the aquatic environment. The chart below shows this.

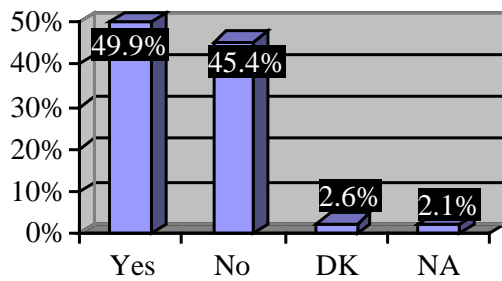


(Chi-Square = 42.792, P-Value = <.0001)

The line chart clearly shows that those who believe docks are not harmful to the environment (the pink line) are significantly more likely to say those who live on the water should be allowed to build docks. Conversely, those who see docks as harmful (the blue line) are far less likely to say waterfront property owners should be allowed to build docks. This suggests a tension between perceived property rights and perceived environmental harm. Conversely, among those who do not see docks as harmful, answers to this question seem to clearly suggest that dock building is a property right to be decided by the owner.

Following this question, we asked a logical follow-up: that is, whether or not the respondents thought “society” should be able to regulate where private docks are built. We intentionally said “society” in order to dissociate the respondent from thinking about levels

### Should Society Regulate Docks?

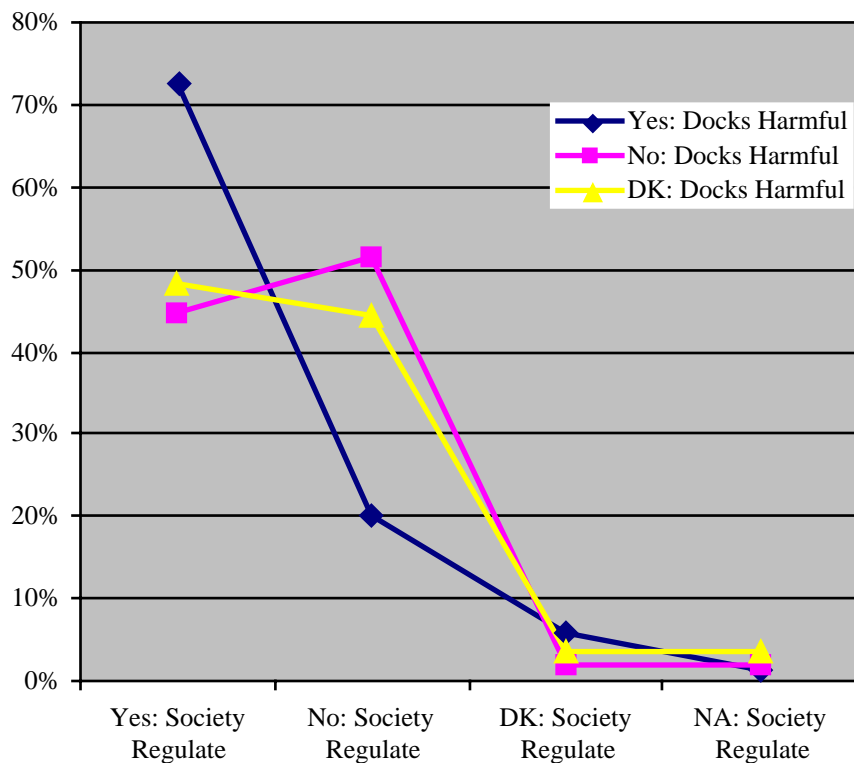


of government. Currently the state regulates dock permitting through the OCRM, thus we did not want to say “state” —allowing for the possibility that a respondent would rather see permitting done locally. The answers to the question are reflected in the chart.

The chart also shows that SC coastal residents are about evenly split on this issue of whether or not government should regulate where people can build docks, with a slightly higher percentage saying “yes.” However, since the “yes” and “no” responses fall within the error margin, we cannot say with any confidence whether a plurality support or do not support the idea of government regulation.

Consistent with what we would expect, we found a strong correlation between responses to this question and whether or not the respondent thought someone who lived on water should be able to build a dock. This suggests that regulation is perceived as a “negative” activity; that is, one that would potentially prevent someone from building a dock rather than regulating such things as dock construction, size, and usage.

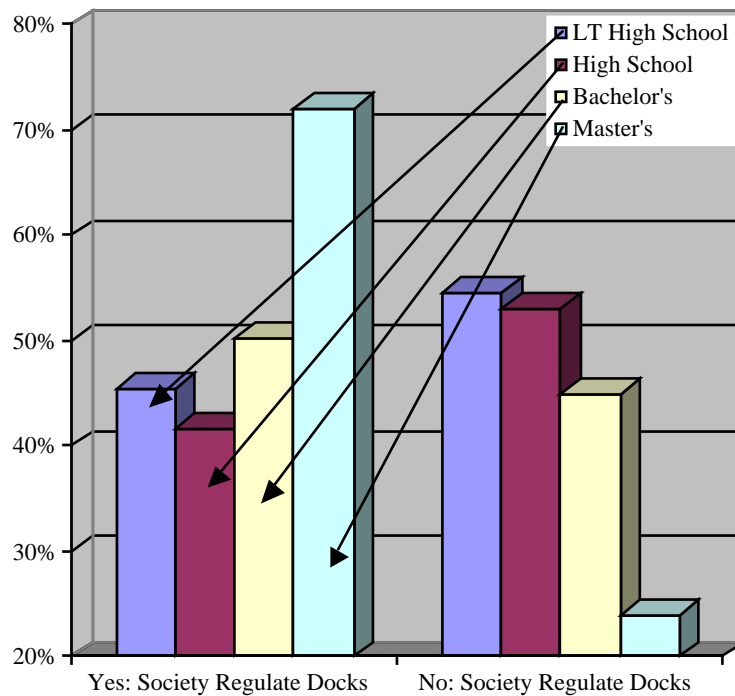
We also found another strong relationship between whether or not a respondent thought docks harmed the aquatic environment and responses to this question as shown in the chart below.



(Chi-Square = 26.577, P-Value = .0016)

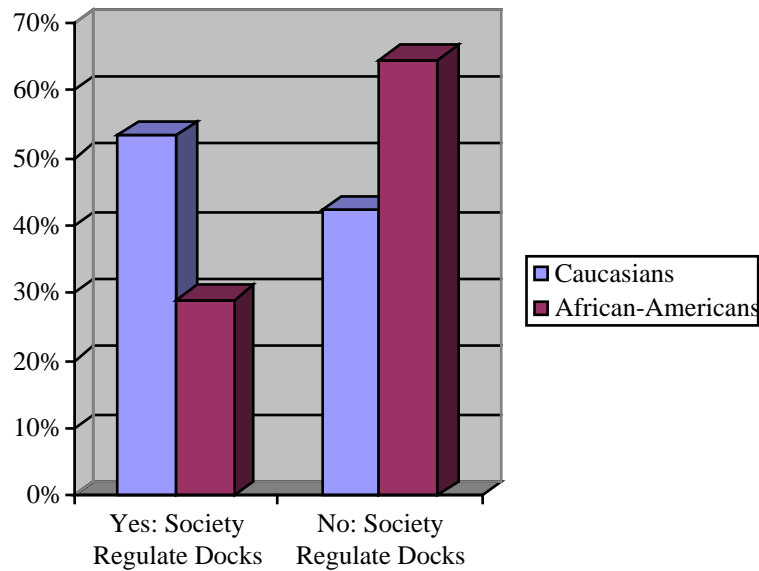
The chart shows very clearly that those who think docks are harmful (the blue line) are more likely to answer “yes” to the question of whether or not society should regulate docks. Among those who thought docks are harmful, three out of four think they should be regulated. Correspondingly, those who thought docks were not harmful were slightly more likely to say they should not be regulated—in effect, they are evenly split on the issue. Again, this directly suggests that those who favor government regulation do so on the basis that they perceive docks as harmful to the aquatic environment.

As was the case above with respect to whether or not they thought waterfront property owners should be allowed to build a dock, we found a greater receptivity to governmental regulation among those who are more educated, only the correlation fell just outside the .05 level of statistical significance. The chart below shows the relationship.



(Chi-Square = 16.037, P-Value = .0661)

The chart shows clearly (albeit we should be a bit reserved about it) that those with a college education as above are more tolerant of governmental regulation on docks. Interestingly, we also found a strong—but also falling outside the .05 level of statistical significance—relationship between race and views on this question. African-Americans were far less likely than any other racial group to say government should regulate. The chart below shows this graphically:

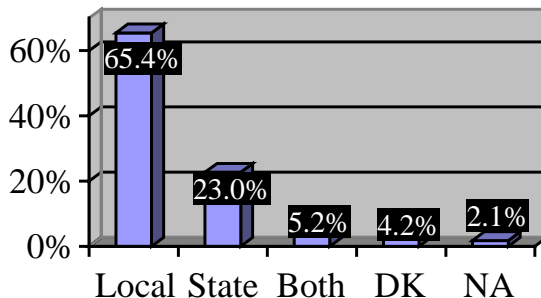


(Chi-Square =18.993, P-Value = .0887)

This chart shows that, in effect, Caucasians are twice as likely as their African-American counterparts to support government regulation.

As a follow-up to this question, we asked those who said they thought “society” should regulate where docks could be built which level of government should make the decision—state or local. The chart here shows the answers to this question.

### Who Should Regulate?

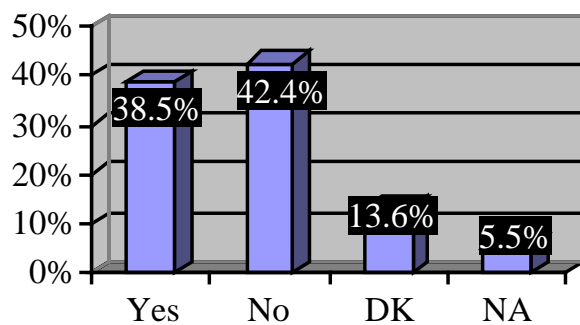


The chart shows that there was overwhelming support amongst those who thought there should be regulation that the unit of government should be local. In fact, nearly two of three respondents thought local government would be the most suitable one to regulate. We did

not ask, but the presumptive argument here is that local government would be county government. To an extent, this may be reflected above where we observe some inter-

county variations. It may well be that SC coastal residents think that local governments can better reflect differences among and between localities along the coast. We should note, however, that there was no correlation between county of residence and responses to this question. Nor was there a correlation between where the respondent lived—rural, suburban or urban. We also found no correlation with the educational achievement of the household.

**Restrict Docks <1000 Feet**



The length of docks is an important aesthetic issue, but may also be perceived to be an environmental one as well. We asked respondents if they thought that docks should be restricted to a length shorter than 1000 feet. As this chart shows, those who said “yes” and

“no” are evenly split—within the error margin for the database.

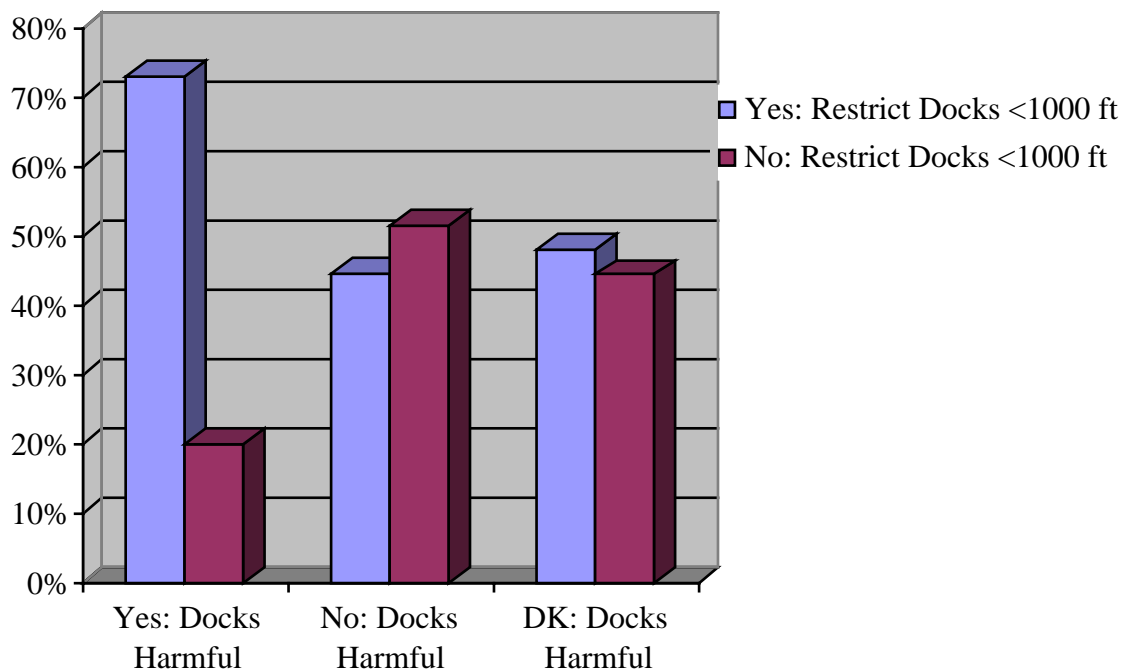
Once more, we found some inter-county variation on responses to this. Those who live in Beaufort, Horry and Jasper Counties responded “yes” (meaning dock length should be restricted) in greater numbers than those in the other counties. The table below shows this in detail.

	<i>Restrict docks to &lt;1000 feet?</i>				<i>N</i>
	<i>Yes</i>	<i>No</i>	<i>DK</i>	<i>NA</i>	
<b>Beaufort</b>	54.8%	29.0%	12.9%	3.2%	31
<b>Berkeley</b>	34.4%	47.5%	11.5%	6.6%	61
<b>Charleston</b>	37.3%	45.1%	12.7%	4.9%	142
<b>Colleton</b>	27.8%	55.6%	16.7%	0.0%	18
<b>Dorchester</b>	32.6%	46.5%	16.3%	4.7%	43
<b>Georgetown</b>	25.0%	45.0%	15.0%	15.0%	20
<b>Horry</b>	47.5%	31.1%	16.4%	4.9%	61
<b>Jasper</b>	60.0%	40.0%	0.0%	0.0%	5
(Chi-Square = 34.975, P-Value = .0688)					

We include this contingency table even though it falls just outside the accepted .05 probability level because it connects with the idea that residents prefer counties to regulate docks rather than the state—and this suggests that there would be inter-county variation if counties followed public opinion in regulating them.

We found no relation between responses to the dock length question and whether the respondents lived in a rural, suburban or urban area. As expected, we found a strong correlation between this question and the respondents' responses to whether those who live on the water should be allowed to build a dock. As well, there was a strong association between responses to the question of whether or not docks should be regulated as to location and this question in anticipatable ways—those who thought docks should not be regulated as to location also believed individuals should be free to build them longer than 1000 feet.

Finally, it should be noted that we found a very strong relationship between responses to this question and whether or not the respondents thought that docks were harmful to the environment as the chart below shows.

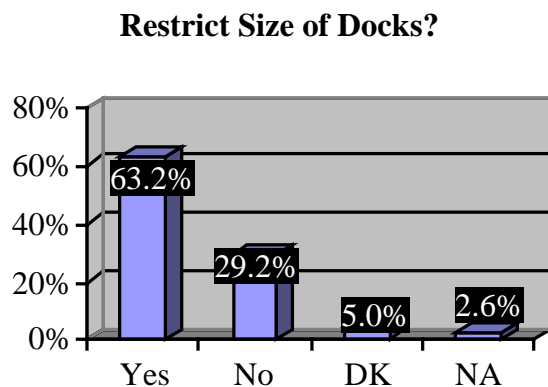


(Chi-Square = 26.577, P-Value = .0016)

The chart shows what we most probably would hypothesize. Those who think docks are harmful to the environment are very strongly in favor of restricting their length whereas those who do not think they are harmful lean slightly toward not restricting them. This is likely an indication of the feelings about coastal aesthetics and dock length. In fact, when we correlated the question that asked if docks take away from the enjoyment of water views, the response pattern mirrored the above table almost perfectly—with slightly more respondents (98) indicating they thought docks did hinder views.

As a follow-up to this question, we asked the 147 respondents who thought docks should be restricted to less than 1000 feet what length should be permissible for docks. Only 78 respondents gave an answer. The average length they cited was 365 feet, with a modal response of 500 feet and a median of 300 feet. The lowest figure cited was 10 feet and the highest was 1000 feet. Thirteen respondents said 100 feet and 21 said docks should be restricted to 500 feet or less.

The respondents had a much greater degree of agreement on the overall size of docks when we asked them if that aspect should be limited. Nearly two-thirds of them said they thought dock size should be restricted and just less than one in three thought they should have no restrictions. The chart here shows the responses to this question.



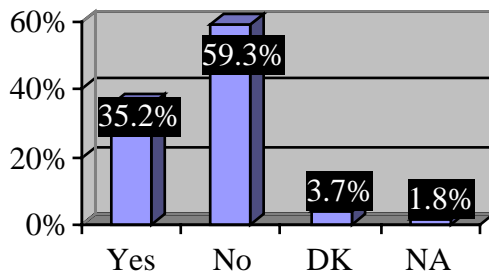
With respect to this question, location of the respondents did make a difference. Suburban residents were considerably more likely than their rural or urban counterparts to say dock size should be restricted, with 71.2 percent saying yes as opposed to 55.4 percent of rural

respondents and 52.3 percent of urban respondents (Chi-Square = 17.914, P-Value = .0219). Interestingly, there was not a statistically significant correlation between whether or not the respondent thought docks were harmful to the environment and responses to

the question. This may suggest a differentiation between the length and size of docks—perhaps even addressing the perception that long docks create shade over marshy areas.

We also found a very strong correlation between answers to this question and the educational level of the responding households. Approximately three-quarters of those with a bachelor's or master's degree said they thought dock size should be restricted while less than a majority of those with a high school degree or less thought so (Chi-Square = 31.473, P-Value = .0017).

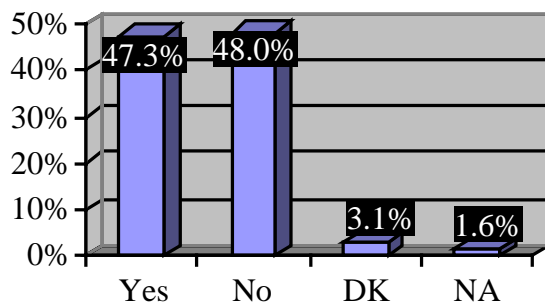
### Restrict Dock Roofs/Coverings



We asked respondents if they thought there should be restrictions on roofs or other coverings over docks. Nearly 60 percent said they thought not—as this chart indicates.

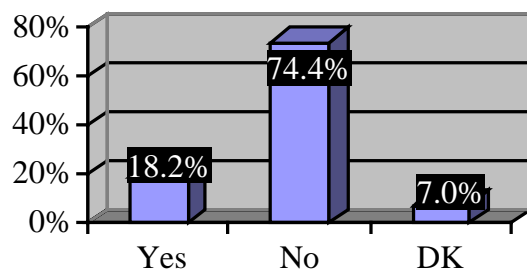
Once more, those with a higher educational level were far more inclined to suggest that restrictions should be applied. There was also a strong correlation with whether or not the respondent thought docks were harmful to the environment and the response to this question. Among those who thought they were harmful, 45.7 percent thought roofs and coverings should be restricted. Among those who did not think them harmful, 33.3 percent thought they should be restricted (Chi-Square = 32.842, P-Value = .0001).

### Fee To Build Dock?



We asked respondents if they thought dock owners should pay a fee to build their dock. Once more they were evenly split in their responses as the chart shows.

### Docks Harmful to Aquatic Environment?



Again, those who thought docks were harmful to the aquatic environment were far more likely to say they thought a fee should be charged. In this case, however, there was no statistically significant correlation with educational levels.

When we asked the follow-up question of whether or not the fee should be annual or one-time to the 180 respondents who indicated they thought a fee should be charged, the vast majority (71.1 percent) said they thought the fee should be one-time.

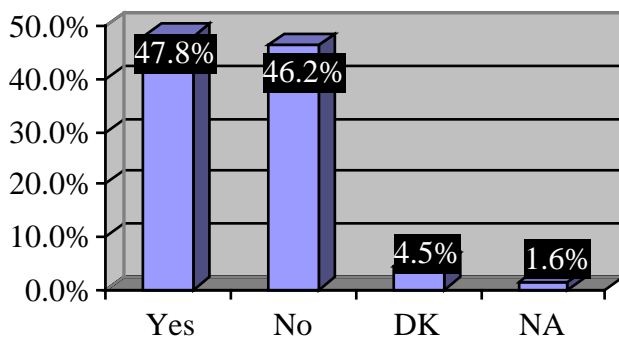
A total of 55 of the 180 respondents gave an answer when we asked them how much the fee should be. The average amount suggested was \$269 with a minimum of \$10 and a maximum of \$1000. The median and mode were both \$100. In fact, 31 of the 55 indicated they thought the fee should be \$100 or less.

One of the key questions on this survey asked the respondents whether or not they thought docks were harmful to the environment. Indeed, it is one of the two crucial issues behind the regulation of docks—with aesthetics being the other. The chart here shows their response to the question of whether or not they think they are.

It should be noted that responses to this question did not correlate with educational levels or with any other questions asked on the survey.

Because it was clear from discussions with OCRM staff that the specific use of docks for boating might have potentially harmful effects, we asked respondents if they thought so. Their answers are about evenly divided as the chart shows.

### Boating Use Harmful?

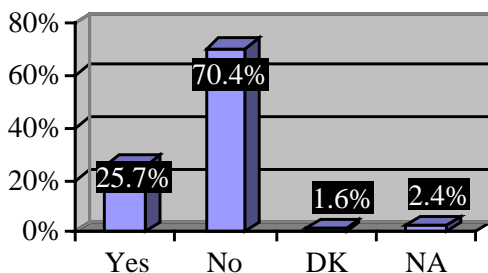


As we would expect, answers to this question correlated positively with whether or not the respondent thought docks should be regulated as to size and length. There was a noticeable, but not statistically significant relationship between responses and educational

attainment. Those with more education were more inclined to see boating uses of docks as harmful (Chi-Square = 14.016, P-Value = 1218).

The other major dimension of dock regulation addresses the area of aesthetics in coastal areas. Even if docks are not perceived to have a negative environmental impact, individuals may think they should be limited because they impede aquatic views both from the water and from land.

### Docks Take Away Views?



We asked respondents if they thought docks take away from the enjoyment of views of salt marshes, creeks, and rivers. By a large majority, coastal residents responded negatively to this question. Their responses are in this chart.

Just over seven in ten respondents indicated they did not think docks were aesthetically displeasing. As expected, those who thought docks took away from views were much more inclined to say docks should be regulated. They were also strongly inclined to see them as environmentally harmful. There was no correlation between responses to this question and education.

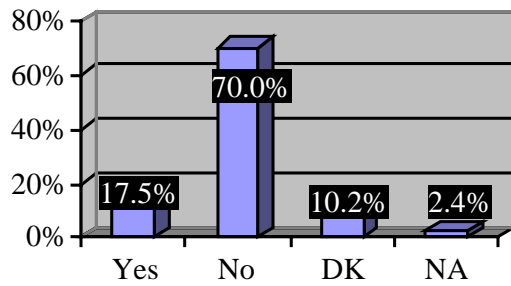
To gain some insight into this group that viewed docks negatively, we controlled for the group of respondents who thought that docks were harmful to the aquatic environment and thought they took away from waterfront views. There were 47 respondents in who held both views—12 percent of the surveyed population. Of these, 26 or 55 percent, lived in Charleston County—yet Charleston County accounted for only one-third of the total households in the eight counties. Against this, only 4 percent of the respondents who held both views were from Horry County—yet Horry County accounted for 22 percent of the total household population.

The above observation raises two interesting hypotheses that cannot be tested within this dataset. We do not know whether or not Charleston County has a disproportionate number of docks. If that is the case, then we would hypothesize that as the number of docks increases, negative views of docks will increase proportionally and they may well be viewed as an environmental threat by virtue of sheer numbers. Conversely, if Charleston does not have a disproportionate number of docks, we hypothesize negative views will be a function of increasing population.

In spite of their negative views on docks, 82 percent of this group believed that docks added to the value of property. Also, a very large majority—68 percent—said they would want a dock if they lived on the water. But they were consistent. Even though a majority said they want a dock, 64 percent said that waterfront property owners should not be allowed to build a dock. In overwhelming numbers, they thought both the size and length of docks should be restricted.

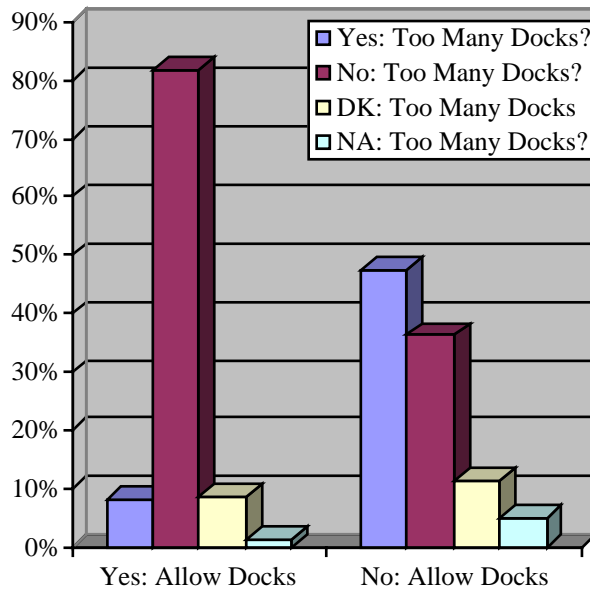
We asked two follow-up questions to the question of whether or not docks take away from views, one of which asked if the views could be improved by limiting the length of docks and one which addressed how close together they could be placed. Those who thought that docks have a negative aesthetic effect were almost unanimous (over 90 percent) in agreeing that views could be improved by limiting how close docks are to one another and placing restrictions on how long docks can be. This indicates that they may have some sense of compromise about docks, even though they see them as aesthetically displeasing.

### Too Many Docks?



We wanted to know if residents thought there were currently too many docks. Approximately seven in ten answered there were not, as the chart shows.

This question did correlate positively and strongly with answers to the question of whether or not an individual who lived on water should be allowed to build a dock. The chart below shows this:

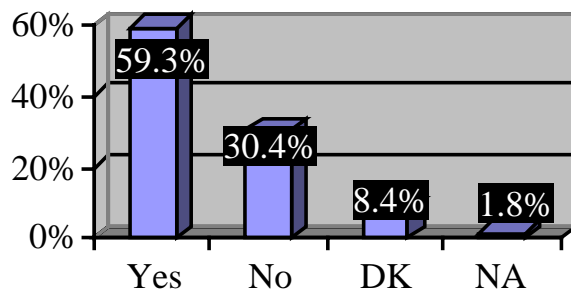


Chi-Square = 89.461, P-Value = <.0001

The chart shows that among those who thought waterfront property owners should be allowed to build docks, there was an overwhelming majority who thought there were not too many docks. Those who thought there were too many docks were less inclined to believe it was a fundamental property right—a plurality thought that there were already too many docks. We found a similar relationship with the question on whether or not docks should be regulated. These correlations indicate that a certain subset of the population believe there are too many docks and look to government to limit future ones. Not sur-

prisingly, there was a similar strong correlation with the question on whether or not docks harm the aquatic environment.

### Places Where Docks Should Not Be Built?



A final substantive question asked respondents if there were some places where docks should not be built. This chart shows their response.

Despite what may be perceived to be fairly lenient attitude toward docks, six in ten households believed there were some areas where docks should be restricted. Not surprisingly, those who thought docks were harmful to the environment were more likely to answer this question affirmatively, as were those who thought they were aesthetically displeasing.

We asked if respondents could tell us where docks should be restricted. Some, of course spoke at length. We recoded their answers to reflect the major thrust of their observation. When recoded, 111 respondents expressed that docks should be restricted in environmentally sensitive areas or in areas where there were environmental reasons for doing so. A total of 46 said they thought docks should be restricted in urban areas. Finally, 7 said they thought areas designated as historically important should have restrictions. A very few cited multiple concerns. One said both urban areas and environmentally sensitive ones. Another 2 said they thought urban areas and historic areas should have restrictions.

**Summary.** Typical opinions of respondents about the structure and regulation of docks were these.

- There was strong support and strong opposition to the idea that society should regulate when and where private docks are built.
- If regulation occurs, local government should do it.

- Concerning restricting docks to less than 1,000 feet in length, supporters and opponents are equally represented among respondents.
- The overall size of docks should be limited.
- No restrictions should be made on placing roofs or other coverings on docks.
- About half of the respondents supported requiring dock owners to pay a fee to build a dock; half opposed it.
- If a fee is required to build a dock, it should be a one-time fee.
- Docks are not harmful to the aquatic environment.
- There was an even split in opinion about whether boating has a harmful effect on the aquatic environment.
- Docks are not detrimental to views of salt marshes, creeks, and rivers.
- If docks are considered detrimental to views, then views can be improved by limiting how close docks are to one another and how long docks can be.
- There are not too many docks.
- If it is thought that there are too many docks, an effective way to control the numbers would be to allow only common or community docks.
- There are places where docks should not be allowed, specifically, environmental concern areas, urban areas, and historic preservation areas.

### **Owners' Perceptions of the Structure and Value of Their Docks**

In conducting the survey, we contacted 25 owners of docks. We asked these dock owners a subset of questions. The responses to these questions are reported below—without analysis since the number of respondents is far too low to make any statistical observations.

<b>Is your dock located on.</b>	
	Count
Inland Waterway	9
Creek	15
River	1
Total	25

<b>Is your dock.</b>	
	Count
Dry at low tide	6
1-4 ft. low tide	8
>4 ft. low tide	10
Total	24

<b>How long is your dock?</b>	
Mean	216ft
Minimum	4 ft
Maximum	1000 ft
Median	50 ft

The owners gave varying descriptions of their docks. Rather than coding, these are listed below.

- FLOATING DECK 160 FT
- FIXED DECK 10 X 15, FLOATING DECK 10 X 20, RAILING
- FIXED DECK 10 X 12, FLOATING DECK 6 X 10, BOAT LIFT
- FIXED DECK 12 X 10, FLOATING DECK 20 X 10
- FIXED DECK 4, RAILING
- FIXED, RAILING
- FLOATING, BOAT LIFT
- FIXED, FLOATING, BOAT LIFT, COVER
- FIXED DECK, RAILING
- FIXED-21, BOAT LIFT, COVER, RAILING
- FLOATING- 10 X 10
- FIXED, FLOATING, BOAT LIFT, RAILING
- FIXED, RAILING
- RAILING
- FLOATING DECK 40 SQUARE FEET, BOAT LIFT, COVER, RAILING
- FIXED DECK 10 X 10, FLOATING DECK 12 X 18, RAILING
- FIXED, RAILING
- FIXED DECK, RAILING
- FIXED, RAILING
- FLOATING, RAILING
- FLOATING, RAILING
- FIXED DECK
- FLOATING DECK 8 X 8
- COVER, RAILING
- FIXED, COVER, RAILING

**What types of watercraft do you keep on your dock?**

Type of Craft	No. of Times Mentioned
Boat	13
Power Boat	10
Sail Boat	2
Kayak	2
Row Boat	2
Jet Ski	1
None	4

**What types of activities do you use your dock for?**

Activity	No. of Times Mentioned
Boating	16
Fishing	11
Swimming	8
Crabbing	9
Shrimping	7
Nature Watching	18

**Do you think your dock adds to the value of your property?**

	Count
Yes	24
No	1
Total	25

Only ten ventured a guess as to how much additional value their docks added. The average of the ten was \$106,500, but there was considerable variation. The low figure was \$20,000 and the high was \$500,000, with a median of \$42,500.

**Can you tell me the approximate value of your house and land?**

	Count
Less than \$100,000	1
\$100,000-\$250,000	5
\$250,000-\$500,000	8
\$500,000-\$1 million	7
More than \$1 million	4

Total
-------

Is your dock in need of major repairs?	
	Count

	Count
Yes	2
No	23
Total	25

## Summary and Conclusions

The data collected here shows in a conclusive fashion that the SC coastal residents are broadly tolerant of docks on waterfront property. Significant majorities do not think there are currently too many docks, do not believe docks are harmful to the aquatic environment and do not think that docks detract from waterfront views. A plurality do not even believe the length of docks should be restricted nor should there be restrictions on coverings—though a majority do think there should be some restrictions on the size of docks. The only exception to this is that they do think docks should be restricted and/or regulated in specific areas that are deemed environmentally or perhaps even historically sensitive.

Coastal residents believe docks enhance property values—they are thus seen in this light as positives rather than negatives. This property enhancement may extend even to a neighbor's dock. Residents are evenly split over whether or not a neighbor's dock would add value to their property (if they lived on the water). Docks are associated with waterfront living and an overwhelming percentage of them would want a dock if they lived on waterfront property.

Residents are more evenly split over whether or not they think docks should require a permit, perhaps reflecting the institutionalization of building permits. But by large margins, they do believe that if docks are to be regulated, then they should be regulated by local governments—presumably counties. This is as we would suspect. Political research

has consistently shown that local government officials are seen as closer and more accessible by the public.

The data here also shows that there is a persistent minority of residents who believe docks are harmful, and who think they are aesthetically displeasing. Though most of this group admits that they would want a dock if they lived on the water, they still think that docks should be restricted in all ways. A disproportionate number of these live in Charleston County—the most urban/suburbanized county in the survey database. Reflecting back on the fact that the survey also shows that residents believe that local governments should be the regulating entity, this suggests the possibility of the need for differential restrictions based on either county preferences or population density differences.

By and large, we may conclude from this that even though they live in areas where docks are common sights, most coastal residents do not see them as posing a threat and, in fact, believe that private property rights should prevail in the building of docks. From this, we may hypothesize that when docks are perceived to be controversial, it is within a narrow range of residents that they create controversy.